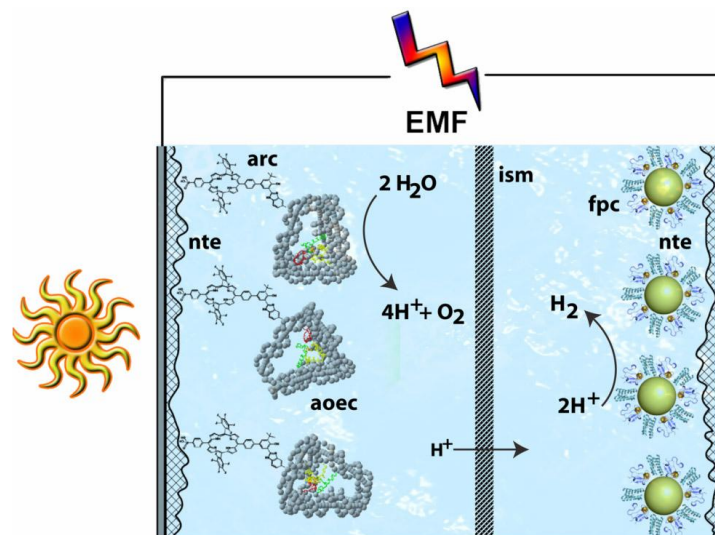




U.S. DEPARTMENT OF
ENERGY

Center for Bio-Inspired Solar Fuel Production Devens Gust (Arizona State University)

The goal of the Center is to construct a complete system for solar-powered production of fuels such as hydrogen via water splitting. Design principles will be drawn from the fundamental concepts that underlie photosynthetic energy conversion.



RESEARCH PLAN AND DIRECTIONS

The chemistry of photosynthetic reaction centers, water oxidation proteins, and hydrogen-producing enzymes will be incorporated into nanoscale artificial constructs that make hydrogen using sunlight. Success requires advances in electron transfer chemistry, synthetic enzymes, DNA as a structural material, and functional nanostructured metal oxides. Success will lead to new technologies for solar fuels.